

CERTIFICATE OF MAILING, FACSIMILE OR ELECTRONIC TRANSMISSION

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is _____ being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Commissioner for Patents address below.

X being transmitted via EFS at the U.S. Patent and Trademark Office to the Attention of Brian Lin.

/Mark D. Saralino/

Mark D. Saralino

March 11, 2009

Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Adam CAPEWELL et al.

Serial No.: 10/595,658

Filing Date: May 3, 2006

For: FORMATION OF LATTICE-TUNING SEMICONDUCTOR
SUBSTRATES

Examiner: Brian Lin

Art Unit: 2812

Attorney Docket No.: MARSP0175US

Mail Stop PCT

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

PETITION UNDER 37 C.F.R. §1.182 SUBMITTING CORRECTED TRANSMITTAL LETTER

Sir:

Applicants submit herewith a corrected Transmittal Letter reflecting the correct International Application No. PCT/GB2004/050022 from which the above-identified application is based. The Transmittal Letter as filed erroneously identified the International Application No. as PCT/JP2004/050022. Applicants respectfully submit that such error was obvious and unintentional. This Petition is accompanied by the fee set forth in 37 CFR §1.17(f).

Serial No.: 10/595,658

Applicants request that upon review of the Petition, a corrected Filing Receipt be issued.

Should a petition for an extension of time be necessary for the timely reply to the outstanding Office Action (or if such a petition has been made and an additional extension is necessary), petition is hereby made and the Commissioner is authorized to charge any fees to Deposit Account No. 18-0988. The Commissioner is authorized to credit any overpayment to Deposit Account No. 18-0988.

Respectfully submitted,

RENNER, OTTO, BOISSELLE & SKLAR, LLP

/Mark D. Saralino/

Mark D. Saralino

Reg. No. 34,243

DATE: March 11, 2009

The Keith Building
1621 Euclid Avenue
Nineteenth Floor
Cleveland, Ohio 44115
(216) 621-1113

CERTIFICATE OF MAILING OR FACSIMILE TRANSMISSION UNDER 37 CFR 1.8(a)

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is _____ being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Commissioner for Patents address below.

X being transmitted via the USPTO Electronic Filing System.

/Mark D. Saralino/

Mark D. Saralino

March 11, 2009

Date

ATTORNEY'S DOCKET No. MARSP0175US

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(DO/EO/US)**

In re national phase of:

Applicant(s): Adam CAPEWELL et al.

International Application No.: PCT/GB2004/050022

International Filing Date: 28 October 2004

Priority Date Claimed: 12 November 2003

Title of Invention: FORMATION OF LATTICE-TUNING
SEMICONDUCTOR SUBSTRATES

**CORRECTED
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED
OFFICE (DO/EO/US) CONCERNING ENTRY INTO U.S. NATIONAL
PHASE UNDER 35 U.S.C. 371**

Mail Stop PCT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information under 35 U.S.C. 371:

1. This express request to immediately begin national examination procedures (35 U.S.C. 371(f)).
2. The U.S. National Fee (35 U.S.C. 371(c)(1)) and other fees (37 CFR 1.492) as indicated below.

3. A copy of the International application (35 U.S.C. 371(c)(2)):
 - a. ☒ is transmitted herewith
(International Publication No. WO 2005/048330 A1).
 - b. ☐ is not required, as the application was filed with the United States Receiving Office.
 - c. ☐ has been transmitted by the International Bureau. A copy of Form PCT/IB/308 is enclosed.
4. ☐ A translation of the International application into the English language (35 U.S.C. 371(c)(2)) is transmitted herewith (See "Original PCT" Application).
5. Amendments to the claims of the International application under PCT Article 19 (35 U.S.C. 371(c)(3)):
 - a. ☒ are transmitted herewith.
 - b. ☐ have been transmitted by the International Bureau.
6. ☐ A translation of the amendments to the claims under PCT Article 19 (38 U.S.C. 371(c)(3)) is transmitted herewith.
7. A copy of the international examination report (PCT/IPEA/409)
 - a. ☐ is transmitted herewith.
 - b. ☐ is not required as the United States Patent and Trademark Office was the IPEA.
8. Annex(es) to the international preliminary examination report
 - a. ☐ is/are transmitted herewith(same as Amendment Under PCT Article 34).
 - b. ☐ is not required as the United States Patent and Trademark Office was the IPEA.
9. ☐ A translation of the annexes to the international preliminary examination report is transmitted herewith(same as Amendment Under PCT Article 34).
10. ☐ An oath or declaration of the inventor (35 U.S.C. 371(c)(4)) complying with 35 U.S.C. 115 is submitted herewith.

11. An International Search Report (PCT/ISA/210)
 - a. ☒ is transmitted herewith.
 - b. ☐ has been transmitted by the International Bureau.
 - c. ☐ is not required, as the application was searched by the United States International Searching Authority.
12. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98 is transmitted herewith, along with Form PTO-1449 and copies of citations listed.
13. ☐ An assignment document is transmitted herewith for recording, along with a separate cover sheet.
14. ☒ A Preliminary Amendment is enclosed.
15. ☐ Applicant is a small entity.
16. ☐ Other:

Basic National Fees					Fee
Basic National Stage Fee					\$300.00
National Stage Search Fee (International Search Report prepared by an ISA or other than the US and provided to the Office or previously communicated to the US by the IB)					\$400.00
National Stage Examination Fee					\$200.00
Basic fee →					\$900.00
Claims*	Number filed		Number extra	Rate	
Total claims	17	-20	0	\$50.00	\$0.00
Independent claims	1	-3	0	\$200.00	\$0.00
Multiple dependent claims (if applicable)				\$360.00	
Additional Sheets:					
Sets of 50 over 100 sheets	0	x		\$250.00	\$0.00
Total of above					\$900.00
Small entity statement enclosed, 1 if Yes, 0 if No →				0	\$0.00
Total national fee					\$900.00
Non-English language specification				\$130.00	\$0.00
Total fees enclosed					\$900.00

*After any attached preliminary amendment reducing the number of claims and/or deleting multiple dependencies.

☒ Credit Card Payment Form to cover the above fees is enclosed.

☐ Please charge our Deposit Account No. 18-0988 in the amount of \$_____. A duplicate copy of this sheet is enclosed.

WARNING: TO AVOID ABANDONMENT OF THE APPLICATION THE BASIC NATIONAL FEE MUST BE PAID WITHIN THE 20/30 MONTH TIME LIMIT.

16. The Commissioner is hereby authorized to charge the following additional fees that may be required by this paper and during the entire pendency of this application to our Deposit Account No. 18-0988:

a. ☒ 37 CFR 1.492(a)(1), (2), (3), (4) and (5) (filing fees)

WARNING: BECAUSE FAILURE TO PAY THE NATIONAL FEE WITHIN 30 MONTHS WITHOUT EXTENSION (37 CFR S 1.495(B)(2)) RESULTS IN ABANDONMENT OF THE APPLICATION, IT WOULD BE BEST TO ALWAYS CHECK THE ABOVE BOX.

b. ☐ 37 CFR 1.492(b), (c) and (d) (presentation of extra claims)

NOTE: Because additional fees for excess or multiple dependent claims not paid on filing or on later presentation must only be paid or these claims cancelled by amendment prior to the expiration of the time period set for response by the PTO in any notice of fee deficiency (37 CFR 1.492(d)), it might be best not to authorize the PTO to charge additional claim fees, except possibly when dealing with amendments after final action.

Respectfully submitted,

/Mark D. Saralino/

Mark D. Saralino

Reg. No. 34,243

Direct all correspondence and telephone calls to:

Customer Number: 43076

Mark D. Saralino, Esq.

RENNER, OTTO, BOISSELLE & SKLAR, LLP

1621 Euclid Avenue, 19th Floor

Cleveland, Ohio 44115

Tel: 216-621-1113

Fax: 216-621-6165



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
10/595,658	10/07/2008	2812	1030	MARSP0175US	17	1

CONFIRMATION NO. 4245

FILING RECEIPT



OC000000032822796

43076

MARK D. SARALINO (GENERAL)
RENNER, OTTO, BOISSELLE & SKLAR, LLP
1621 EUCLID AVENUE, NINETEENTH FLOOR
CLEVELAND, OH 44115-2191

Date Mailed: 10/29/2008

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections

Applicant(s)

Adam Daniel Capewell, Warwickshire, GBN, UNITED KINGDOM;
Evan Hubert Cresswell Parker, Gloucestershire, GBN, UNITED KINGDOM;
Timothy John Grasby, Solihull, GBN, UNITED KINGDOM;

Power of Attorney: The patent practitioners associated with Customer Number 43076

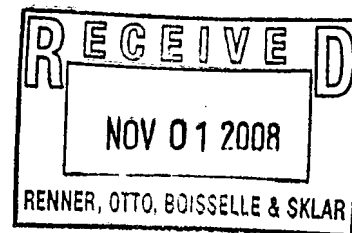
Domestic Priority data as claimed by applicant

This application is a 371 of PCT/JP04/50022 10/28/2004

Foreign Applications

UNITED KINGDOM 0326321.7 11/12/2003

PCT/GB2004/050022



If Required, Foreign Filing License Granted: 10/27/2008

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 10/595,658**

Projected Publication Date: 02/05/2009

Non-Publication Request: No

Early Publication Request: No

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
26 May 2005 (26.05.2005)

PCT

(10) International Publication Number
WO 2005/048330 A1

(51) International Patent Classification⁷: **H01L 21/20**,
C30B 25/04

(74) Agents: **HARDING, Richard, Patrick et al.**; Marks &
Clerk, 4220 Nash Court, Oxford Business Park South, Ox-
ford, Oxfordshire OX4 2RU (GB).

(21) International Application Number:
PCT/GB2004/050022

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(22) International Filing Date: 28 October 2004 (28.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0326321.7 12 November 2003 (12.11.2003) GB

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (for all designated States except US): **UNIVER-
SITY OF WARWICK** [GB/GB]; Coventry, Warwickshire
CV4 7AL (GB).

(72) Inventors; and

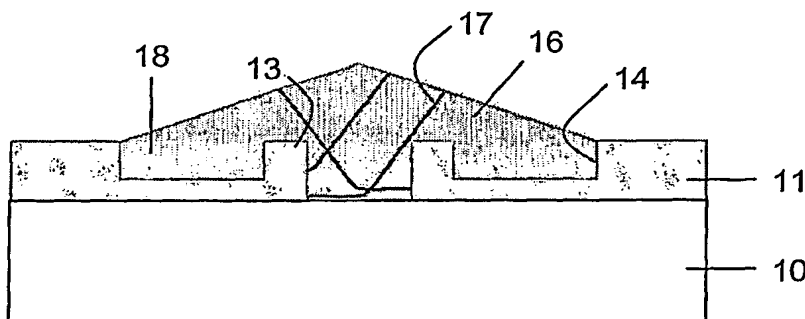
(75) Inventors/Applicants (for US only): **CAPEWELL**,
Adam, Daniel [GB/GB]; 16 Cowdray Close, Leamington
Spa, Warwickshire CV31 1LB (GB). **PARKER**, Evan,
Hubert, Cresswell [GB/GB]; The Orchard, Back Ends,
Chipping Campden, Gloucestershire GL55 6AU (GB).
GRASBY, Timothy, John [GB/GB]; 3 Clover Cottage,
Station Road, Salford Priors, Worcestershire WR11 8UX
(GB).

Published:

- with international search report
- with amended claims and statement

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: FORMATION OF LATTICE-TUNING SEMICONDUCTOR SUBSTRATES



(57) Abstract: A method of forming a
lattice-tuning semiconductor substrate
comprises defining a selected area
(12) of a Si surface (15) by means of
a window (13) extending through an
isolating layer (11) on the Si surface
(15); defining in the isolating layer (11)
a depression (14) separated from the Si
surface (15) by a portion of the isolating
layer (11); growing a SiGe layer (16)
on top of the selected area (12) of the Si
surface (15) such that dislocations (17)
are formed in the window (13) to relieve
the strain in the SiGe layer (16); and

further growing the SiGe layer (16) to overgrow the isolating layer (11) and extend into the depression (14) to form a substantially dislocation-free area (18) of SiGe within the depression (14). If required, the portion of the SiGe layer (16) that has overgrown the isolating layer (11) can then be removed by polishing so as to isolate the substantially dislocation-free area (18) of SiGe within the depression (14) from the area of SiGe within the window (13). Furthermore the SiGe layer (16) and the isolating layer (11) can then be removed from the Si surface (15) except in the vicinity of the depression (14) so as to leave on the Si surface (15) the substantially dislocation-free area (18) of SiGe isolated from the Si surface (15) by the portion of the isolating layer (11).